The

HUDSON BAY ROUTE

AND

PORT OF CHURCHILL

Prepared and published under the direction of Hon. A. T. Procter,
Minister of Highways and Transportation,
Government of Saskatchewan

REGINA
Thos. H. McConica, King's Printer
1939

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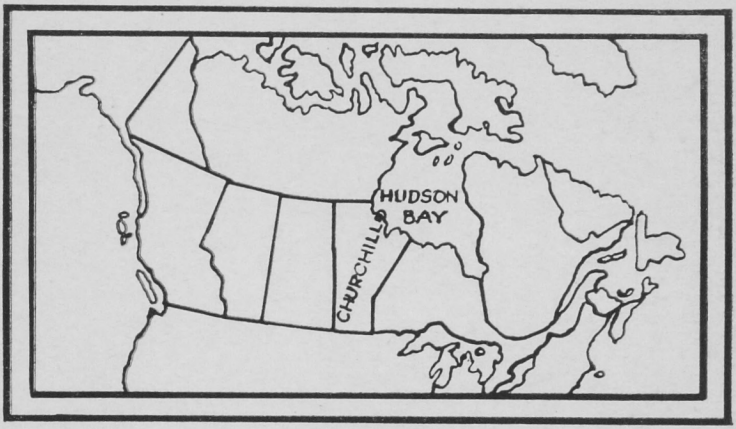

The Shortest Route to Europe from
Canada's Central West

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AIR VIEW OF LEGISLATIVE BUILDING, REGINA

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Foreword

HON. A. T. PROCTER
Minister of Highways and Transportation

PROBABLY the most important factor affecting trade—buying and selling; exchange of one type of goods for another; exports for imports, etc.—is the cost at which such goods may be laid down at the door of the consumer. Among the most important elements of cost is the expense of transportation. This, in turn, depends upon the distance (rail and water), promptness and security of delivery.

HON. A. T. PROCTER

Advantages to be gained in patronizing the Hudson Bay Route by exporters and importers of Canada's Central West, particularly those of the Province of Saskatchewan, have passed beyond the phase of mere theory to that of actual fact, and the Government of Saskatchewan is more anxious than ever, therefore, to promote and foster the continued growth and further development of this great rail and waterway system.

With this objective in view it has set up a branch of the Department of Highways and Transportation specifically charged with the responsibility of keeping in touch with all matters affecting the route, compiling facts and arranging data for presentation to the public, particularly to those who may be directly interested in transportation to and from Europe.

Encouraging success has attended the activities of the Government in its endeavour to promote increased trade through the Port of Churchill, and it is pleased to say that, in this connection, it has enjoyed the effective co-operation of the On to the Bay Association, many boards of trade, the Retail Merchants' Association, and others, and it is hoped that this happy and practical relationship may continue for years to come.

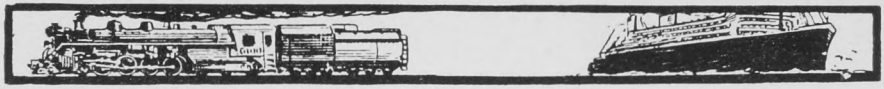
Westbound cargo for ships continues to be an important factor and increased effort is being made to develop this part of the business. Saskatchewan's representative in England is receiving the excellent co-operation of British exporters, and this, with the continued support of Western Canadian importers, will do much to increase the effectiveness of the Hudson Bay Route, a traffic highway already proven to be feasible, economical and safe.

The material for this booklet has been carefully compiled and merits the sympathetic consideration of all who may be interested, directly or indirectly, in the continued success of a trade route, approximately a thousand miles the shortest, between trans-Atlantic ports and Canada's great Central West.

Information

Address all communications relative to the Hudson Bay Route to,

Supervisor, Rail and Ocean Traffic,
7th and Smith Street,
REGINA, Sask.



The Hudson Bay Route

THEN AND NOW

THE romantic tale of intriguing mystery and tragedy, woven about the Hudson Bay since its discovery in 1610 by Henry Hudson, is among the most fascinating of Canadian history. Even to this day the fate of that great explorer, who with several sick sailors was cast adrift in an open boat by his mutinous crew, remains unknown.

Down through the generations brave and courageous explorers, with naught but the stars to guide them and only the wind and gales to propel their rugged craft, have sailed boldly through the Hudson Strait and into the harbour. Now, in this modern age of miracles—radio, echo-sounding devices, gyro-compasses, ice breakers, etc.—large steamers ply through the strait and in and out of the harbour with the greatest of ease and safety.

The efforts and feats of the early explorers, many of whom sacrificed their lives, have not been in vain. A great future is predicted for Churchill and the Hudson Bay—the shortest route from Canada to British and European ports.

Discovery of Hudson Bay

IT is not definitely established who was the first European to enter the Hudson Bay. The time, too, is also in doubt. Early maps seem to indicate that Portuguese sailors entered the Hudson Strait as early as the sixteenth century; these sailors may have gone far into the bay. The earliest authentic and definite information is a record of the voyage of Henry Hudson in 1610, planned for the purpose of finding a shorter route to Asia.

Henry Hudson

The first of Hudson's voyages in quest of a new trade and short route to China by way of the north, in accordance with the suggestion of Robert Thorne, was made for the Muscovy company with ten men and a boy in 1607. Hudson first coasted the east side of Greenland, and sailed along the great ice barrier until he reached "Newland," as Spitzbergen was then called, and followed its northern coast to beyond 80° N. latitude.

Next year Hudson was again sent by the Muscovy company to open a passage to China, this time by the northeast route between Spitzbergen and Novaya Zemlya, but he was compelled to return without accomplishing his wish. The Muscovy company thenceforward directed all its energies to the profitable Spitzbergen trade.

Towards the end of 1608 Hudson "had a call" to Amsterdam, and, after some delay, undertook for the Dutch East India Company his third voyage to find a passage to China either by the northeast or northwest route With a mixed crew of 18 or 20 men he left the Texel in the *Half Moon*, on April 6, and by May 5 was in the Barents sea, and soon afterwards among the ice near

Novayo Zemlya. Some of his men becoming disheartened and mutinous, he submitted to them as alternative proposals, either to go to Lumley's Inlet and follow up Weymouth's Light, or to make for North Virginia. The latter plan was adopted and on May 14 Hudson set his face towards the Chesapeake and China. After many disappointments he became satisfied that this course would not lead to the South Seas or China. The *Half Moon* arrived at Dartmouth on November 7. A new company was formed to support Hudson in a fourth attempt to discover a northwest passage.

He determined this time to carry out his old plan of searching for a passage up Davis Strait. Hudson sailed from London in the little ship *Discovery* of 55 tons, on April 17, 1610, and entered the strait which now bears his name about the middle of June. He proceeded through the strait and entered the bay on August 3rd. He then directed his course down the eastern coast and continued south until he reached the southern point of James Bay. After some further exploration of the coast, probably as far north as Cape Henrietta Maria, the crew of the *Discovery* went into winter quarters at a point on the southeast corner. As far as may be ascertained, the trading post, Rupert's House, was afterwards established at or near the place where Hudson spent the winter.

When navigation opened in 1611 the *Discovery* weighed anchor and set sail again in June, but for some time, because of the hardships of the winter, the scarcity of food, and jealousies among the men, the crew mutinied. Hudson and a few of the sailors who remained loyal were set adrift in a shallop (an open boat sometimes equipped with a sail) and left to look out for themselves. The fate of Hudson and those with him still remains a mystery.

After many hardships, including scarcity of food, rough weather and trouble with ice, the *Discovery* reached the coast of Ireland. The mutinous crew finally arrived in London. No punishment was inflicted on the survivors. Four of them were brought to trial in July, 1618. The High Court of Admiralty sat at Southwark in Surrey and returned a verdict of not guilty.

Guns in Fort Prince of Wales—Built 1731-1771

The Hudson Bay Route

The Bay

EXTENDING deeply into the northern interior of Canada, the Hudson Bay is a great inland sea reaching to the very heart of the Dominion. The total area of its drainage basin is about 1,500,000 square miles. The bay itself, including James Bay at the extreme southeast, measures almost 1,000 miles from north to south and 600 miles from east to west at its greatest width.

The Hudson Bay is almost completely land-locked. It is, however, connected with the Atlantic ocean on the east by Hudson Strait and with the Arctic ocean on the north by Fox channel and Fury and Hecla straits. With its southern extension, James Bay, it lies between north latitudes 51° 8′ and 66° 35′ and west longitudes 77° 20′ and 94° 50′.

During the navigation season the Hudson Bay route is not difficult of access, intricate, or treacherous. The entire route is wide, remarkably free from shoals, and the nine hundred mile trip from the east entrance of Hudson Strait to a position off Churchill may be made over only four courses. For more than 250 years vessels of the Hudson's Bay company have traversed this route with the loss of only two or three ships.

The Hudson Strait

Hudson Strait, the waters of which are also a part of the Hudson Bay route, is an arm of the sea lying between west longitude 64° 35′ and 80° 45′, and north latitudes 58° 20′ and 64° 35′, connecting the Atlantic ocean with Hudson Bay.

From its eastern entrance, between Cape Chidley and Resolution Island, the strait trends approximately 430 nautical miles in a general west-northwesterly direction; the width varies from 50 to 100 nautical miles.

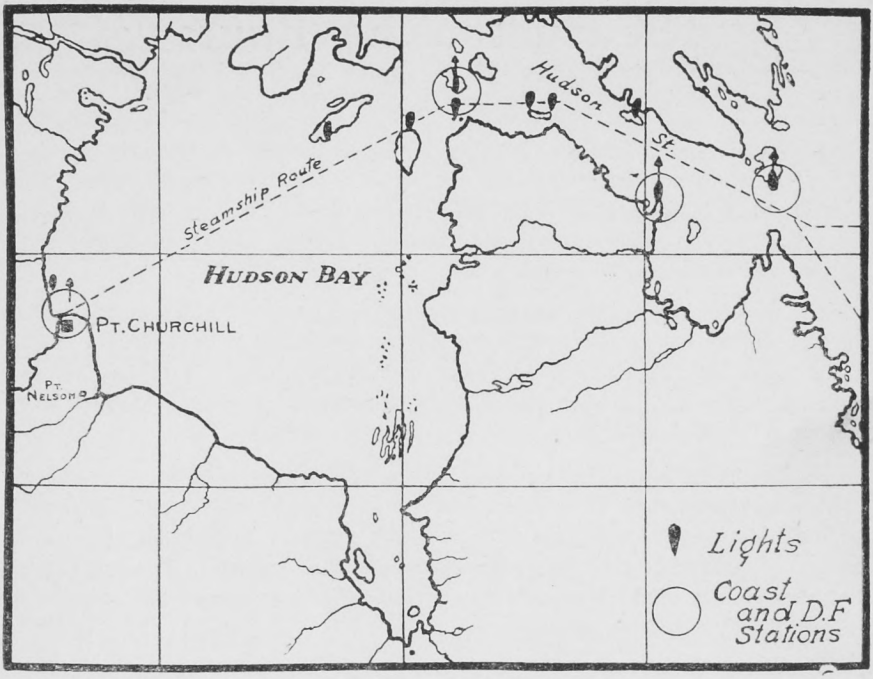
A large expansion of the strait on its southern side, immediately inside the eastern entrance, is known as Ungava Bay; it has an area of approximately 14,800 square miles. The greatest charted depth of Hudson Strait is 330 fathoms.

The Port

Churchill, the port selected as the terminus of the Hudson Bay Railway and for harbour development, is abundantly endowed by nature with many favourable features. During the past few years growth and improvement of the port and the spacious and completely sheltered harbour have been almost phenomenal.

The Railway

Canada's inland seaport is connected, by the Hudson Bay Railway to The Pas, with a great network of railways covering the entire North American continent.



Map showing Route, Lights and Stations

Trade Development

Early Exploration

THE report of the successful passage of the *Discovery* through the strait stimulated interest in these great northern waters, with the result that another expedition was organized and equipped to further explore the northern passage, later destined to become the Hudson Bay route.

In April, 1612, this expedition under the command of Capt. Thomas Button, who piloted the ship *Resolution*, and accompanied by Hudson's ship, the *Discovery*, set sail from England.

Button's instructions were to proceed to latitude 58°, where it was believed an open channel to the Pacific would be found. After touching land north of Churchill the two ships proceeded to Nelson, named after a member of the crew who died at this point; here they remained during the winter of '12-'13.

In July, 1613, the two ships returned safely to England, arriving home the latter part of September.

Other expeditions followed, in futile attempts to find a passage to the Pacific, but it was left to a Danish expedition consisting of a small frigate and a sloop, manned by total crews of sixty-five under the command of Jens Munck, to discover what is now known as Churchill harbour. This expedition sailed from Copenhagen on May 9, 1619, and on September 7 the frigate *Unicorn*

sailed into the harbour, followed two days later by the sloop. So perilous had been the voyage, however, that Munck decided to spend the winter in the bay. Unfortunately, scurvy caused the deaths of the entire crew with the exception of Munck and two sailors. On July 16, 1620, the Danish explorer and his two companions left Churchill aboard one of the vessels and, by dint of sheer perseverance and courage, succeeded in reaching Copenhagen on September 21.

The Fur Trade

Interest, however, was further stimulated and other expeditions followed. Shortly after the return of the *Nonsuch* with a complete cargo of furs secured in the vicinity of Churchill during the winter of 1688, the historic Hudson's Bay Company was organized in England.

The Hudson's Bay Company

A charter was granted by King Charles II in 1670 to the "Governor and Company of Adventurers of England trading into Hudson's Bay" and their successors, but after amalgamation with the Northwest Company, however, this corporate title was changed to the "Hudson's Bay Company."

Movement of merchandise from England to trading posts on the shores of James Bay commenced immediately and valuable furs comprised the cargoes for return voyages.

In the summer of 1686 Captain Abraham, who had been stationed at Port Nelson, a trading post established on the Nelson river about 1682, while on a voyage of exploration, sailed into the Churchill River. Upon his return to England, Captain Abraham reported his discovery to members of the company committee, who were so favourably impressed that it was decided to send settlers to the Churchill River district as soon as possible. As a result two vessels were chartered to make the trip and, on the day prior to sailing, Captain Young, in command of one of the ships, received £7 for the purchase of cattle and pigs to be taken with him. Thus began the importing of European cargoes to Churchill, now an important link in international trade.

Selkirk Settlers

Probably no other activity revealed the true potentialities and possibilities of the Hudson Bay route as did the transportation of the Selkirk settlers into Canada in 1812. After spending a severe winter of suffering and privation in tents within the ruins of Fort Prince of Wales at Churchill, the courageous settlers tramped inland for hundreds of miles and established some of the first agricultural settlements on the western prairies; so the first line of communication between western Canada and the Old Country was via the Hudson Bay route.

The relinquishing of territorial rights long enjoyed by Hudson's Bay Company became inevitable with the era of colonization followed by the establishment of the Selkirk settlement.

Purchase of the West

Following Confederation of the Canadian provinces in 1867, Rupert's Land and the Northwest Territories were purchased from the Hudson's Bay Company for £300,000, a sum approximately equal to the average value of the potato crop of the three prairie provinces for 1933.

Although Canada has held Prince Rupert's Land and the Northwest Territories for less than three score and ten years, almost phenomenal advancement has been recorded in national development. The Red River Settlement became the Province of Manitoba and became a member of Canadian Confederation in 1870.

The Provinces of Saskatchewan and Alberta were created from the former Rupert's Land and the Northwest Territories; these became members of Confederation in 1905.

Some indication of this spectacular growth and the possibilities now offered for the development of overseas trade via the Hudson Bay route is indicated by the following statistics:

Province	Estimated wealth	Population	Per capita wealth
Saskatchewan	$3,047,000,000	931,547	$3,395
Manitoba	$1,970,000,000	700,139	$2,814
Alberta	$2,406,000,000	731,605	$3,289

Saskatchewan's Progress

THE Province of Saskatchewan in less than a quarter of a century became the heart of one of the greatest field crop producing areas in the world. Western Canada's No. 1 hard wheat belt became known to the people of every country where wheat bread is eaten. In twenty-four international grain shows held since 1911, Saskatchewan exhibitors of wheat, in world competition, have been awarded twelve championships and scores of minor prizes.

Although one of the youngest members of the Confederation, she has advanced from relatively insignificant beginnings to first place, under normal conditions, in the production of wheat, oats, flax and rye, and first place in the number of horses. It also ranks second in the value of agricultural wealth and second in poultry population. Carrying the comparison still further, Saskatchewan is first in quantity of commercial clay resources, first in natural production of sodium sulphate, second in railway mileage, second in the number of telegraph offices, third in value of coal reserve, third in aggregate wealth and third in the Dominion in per capita wealth.

Another significant fact is especially important; this province has a lower mortality rate from tuberculosis than that of any country in the world recording vital statistics.

Wealth of Saskatchewan

Saskatchewan's gross tangible wealth has been officially estimated at $3,047,000,000 and her potential wealth at $15,000,000,000.

Agriculture is Saskatchewan's basic industry. 20,483,600 acres were under cultivation in 1937. Seven out of every ten people live on the land, the size

Grain on the Open Prairie

of the average farm being approximately 320 acres. Rural people at present are giving more attention to "mixed farming"; in addition to growing wheat and other cereals they are producing honey, dairy and garden products and raising more cattle, sheep and swine. Practically all the people who live in the towns and cities are engaged in commercial work of some kind having to do with the great farming communities surrounding them.

Saskatchewan's 1938 wheat crop has been estimated at 132,000,000 bushels; the oat crop at 90,511,000 bushels; and barley, rye and flax at a total of 25,126,000 bushels.

Other field crops produced in 1938 were: hay and clover, 286,000 tons; and potatoes, 3,289,000 centals.

Heretofore, Saskatchewan's renown has resulted from the unparalleled progress of agriculture. But this province has also made remarkable advancement during recent years in industry and manufactures.

Mining is rapidly becoming recognized as a major industry. During 1937 mineral production amounted to $10,280,180, nearly double that of 1936, and more than triple that of any previous year.

Saskatchewan Cattle

Commercial fishing is an important industry on many northern fresh water lakes. Fish landed by commercial fishermen during the year ended April 30, 1938, had a market value of $472,772.67.

Over 800 active manufacturing establishments, with a capital of $64,950,579 invested, are operating in the province, producing goods valued at over $36,000,000 annually.

It is, therefore, quite apparent that Saskatchewan is making rapid strides industrially and agriculturally and that Canada's inland seaport, Churchill on the Hudson Bay, offers an advantageous outlet for Saskatchewan products and, at the same time, a perfectly natural entry port for western Canadian requirements from Europe.

The strategic position of the province as a distributing centre and its proximity to the Hudson Bay route have been directly responsible already for the establishment of large branch factories.

What of the Future?

Growth of population is a reliable gauge by which to measure the economic development of any community; Saskatchewan's population has increased from 195,000 in 1905 to 931,547 in 1938, sufficient evidence surely of phenomenal economic progress.

But Saskatchewan is still in its infancy. What of the future? Great forests of the north remain in their primeval condition; thousands and thousands of square miles of mineral areas have never been prospected; billions of tons of coal lie beneath the surface of the prairie; the development of industries from clay, sulphate, and other deposits has only commenced. What of the future?

Judging by the history of the past twenty-five or thirty years, the latter part of which period brought unprecedented and unusual difficulties to Canada's Great West, none but those with an imagination extremely foggy, or who lack information relative to the latent immensity of Saskatchewan's natural resources, or the impossibility to even approximate the economic value and possibilities of development, will hesitate to conclude that a continuance of Saskatchewan's progress is assured and, as a natural consequence, the progress and further development of Churchill and the Hudson Bay route.

World Trade and the Hudson Bay Route

PENETRATING, as it does, deep into the interior of the Dominion, transportation via the Hudson Bay waterway system eliminates long overland hauls heretofore necessary before products of central Canada could be loaded for shipment at ports on either the Atlantic or the Pacific. Moreover, the Hudson Bay route shortens the distance between principal Saskatchewan points and Great Britain by approximately 1,000 miles; it is, therefore, the shortest and most economical waterway system linking Western Canada with British and European ports.

For many years residents of Canada's great west have cast hopeful eyes toward the shores of the bay; now their hopes have become a reality.

Construction of a harbour, shipping facilities, elevators at Churchill, and a railway connecting the port with the network of railways in the interior, has been completed. The waters through Hudson Strait and the Bay are well marked, making the new way to Europe an international trade route of the highest importance.

Through the Northland

Distance and Cost

Actual mileage speaks for itself, as the following comparison clearly indicates:

Via the Great Lakes—			
Saskatoon to Fort William	904	miles	
Fort William to Liverpool	3,974	"	— 4,878 miles
Via Hudson Bay—			
Saskatoon to Churchill	814	"	
Churchill to Liverpool	2,936	"	— 3,750 "
Shorter distance via Hudson Bay			1,128 miles

Note, too, that the rail haul from Saskatoon to Churchill is ninety miles shorter than that from Saskatoon to Fort William.

The consensus of opinion is readily becoming recognized as a fact that the shorter route results in greater satisfaction in service and a cost saving in almost the same proportion.

Reduction of Rates

In addition to the shorter distances and saving in time, very substantially reduced freight rates are obtainable on farm products and general merchandise moving via Churchill. This combination of favourable transportation factors offers to exporters and importers compelling inducements to patronize the "Bay" route. The schedules of comparative freight rates are tabulated elsewhere in this booklet.

Again, taking Saskatoon as a fair, concrete illustration, these schedules indicate that the lower cost via Churchill on shipments of live stock is $123 per car; on dairy products, butter and dressed poultry, $365 per car; on eggs, $160.87 per car. The schedules indicate also that haulage charges are materially less for export grain and general merchandise.

Favourable Conditions

Information has already been given relative to Saskatchewan's rapidly expanding wealth and population; the people are empire-minded; they look with favour upon British products; the urban centres are fully provided with wholesale houses and retail firms; a splendid network of railway transportation and distributing facilities are provided within the province. These and other factors all unite to make the Saskatchewan market more attractive to British manufacturers, and should result in a greater volume of traffic from the Old Country moving via the Hudson Bay route.

It is, indeed, most unfortunate that the inauguration of the Hudson Bay route in 1931 coincided with the commencement of the unprecedented worldwide depression period which brought with it restricted international trade and exchange difficulties, lessening enormously the movement of freight, not only through Churchill, but through every other port in the world. The outlook, however, is distinctly encouraging to business men and producers; it seems to justify the prediction of improvement in trade conditions generally, conditions which undoubtedly will produce a greater volume of profitable business through the Port of Churchill.

Information Available

British manufacturers and traders may obtain complete information relating to the Hudson Bay route from:

The High Commissioner for Canada, Canada House, Trafalgar Square, London, England.

W. Waldron, Official Commercial Agent for Saskatchewan, Mapledene, Braunton, N. Devon, England.

R. S. Dalgliesh, Ltd., Watergate Buildings, Newcastle-on-Tyne, England.

Any of Canada's Trade Commissioners located in various British and continental cities.

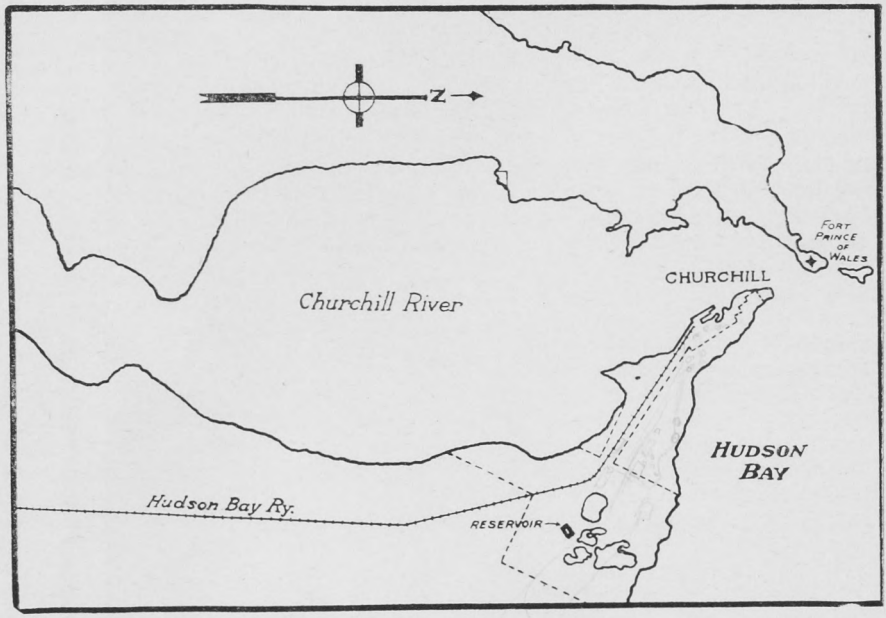
Tourist Traffic

Churchill is not only destined to become an important Canadian port, more especially an important Western Canadian port, but indications already warrant the prediction that, so far as tourist traffic is concerned, it may became an exceedingly attractive and important centre. The surrounding country abounds in historic associations of absorbing interest. Its exclusive natural beauty and the thrill of travel through the far north provide a setting for an unusually attractive and thrilling holiday expedition. Modern conveniences in the town will follow the development of the port, thus providing all the tourist may require.

Harbour Entrance, Port Churchill, Viewed from Top of Elevator

Churchill Terminal

DEVELOPMENT work at the Port of Churchill began only after Sir Frederick Palmer, M. Inst. C.E., M.Am., Soc. C.E., of London, England, appointed by the Federal Government, made a thorough investigation into the disputed relative merits of Churchill and Nelson as the terminal for the Hudson Bay railway. After a careful examination of both sites, Sir Frederick recommended Churchill, which



Location of Churchill

recommendation was approved by the Government. With respect to Churchill, the following facts were recorded in this extensive report:

Natural Protection: At Churchill nature has provided breakwaters consisting of rocky cliffs, rising to heights of from 40 to 70 feet, enclosing a harbour six miles in length and from one to two and one-half miles in width at low water, and one and one-half to four miles at high water.

Entrance to Harbour: The entrance to the harbour consists of a narrow gap between these headlands with a low-water width of 1,600 feet, a width of 850 feet at 30 feet depth, and 750 feet of width having depths exceeding 60 feet.

The Harbour: Inside the well sheltered harbour, the approach to the dock is a dredged channel about 4,600 feet in length, with a minimum width of 400 feet and a minimum depth of 25 feet at low tide. The basin in front of the dock is 550 feet wide with a depth of five fathoms, sufficient for any ship to turn about freely either before or after loading or unloading its cargo.

Bow and stern moorings for four vessels are being laid down inside the harbour for the accommodation of ships when all berths of the wharf are occupied. At any of these a ship may wait its turn to move up to the wharf and still enjoy the protection of the harbour.

Storms Innocuous: Because of the configuration of the cliffs guarding the entrance, the only gales which affect the inside area are those from directions between north-northeast and east-northeast and, because of the inclination of the inner area to the southeast, a short strip of shore on the west side of the entrance is the only part affected by such gales. The remainder of the bay is quite unaffected by gales from any direction.

Ample Depths of Water: Vessels of 30-feet draught may enter Churchill harbour along the easier course at all states of the tide and, for 12 hours of each day, even at neap tides, there is ample depth of water for 36-feet vessels. On the alternative course, vessels of 35-feet draught may enter at all states of the tide and, for 12 hours of each day, there is sufficient water for vessels of 40-feet draught. At spring tide the conditions, of course, are even better.

Draught Practically Unlimited: Inside the harbour the works covered by the estimates allow for passage to the wharf of 28-feet draught vessels at all states of the tide, and the harbour bed can be readily dredged at reasonable cost to any depth required.

No Real Limit to Extension: The site of the wharf has been so laid out as to admit of easy and, for all practical purposes, unlimited extension along the east shore of the harbour. Certainly, 20 vessels, with moorings for 20 more, could be berthed in one straight line, and this would not by any means exhaust the possibilities of extension.

General View of Elevator, Port Churchill

The Port of Churchill

CHURCHILL lies immediately within the mouth of Churchill river. Considerable development has taken place during the past few years and the work is continuing, ample evidence to indicate its becoming a thriving and prosperous port. A brief outline of its present facilities follows:

Railway: The Hudson Bay railway connects Churchill with a network of railways serving all parts of Canada and the United States.

Communication: Postal and telegraphic facilities are available.

Customs Office: A customs office is maintained during the season of navigation.

Machine Shop: An efficient machine shop is available for repairs.

General Stores: Several general stores have been established, one of which is operated by the Hudson's Bay Company.

Supplies: Limited supplies of provisions may be obtained at Churchill or brought in by rail in any quantity.

Hudson's Bay Company: Churchill is the distributing centre of the Hudson's Bay Company for its posts on the west side of the Hudson Bay north of the Severn river.

Churches: A Roman Catholic church and missions of the Anglican and the United Church of Canada are located at Churchill.

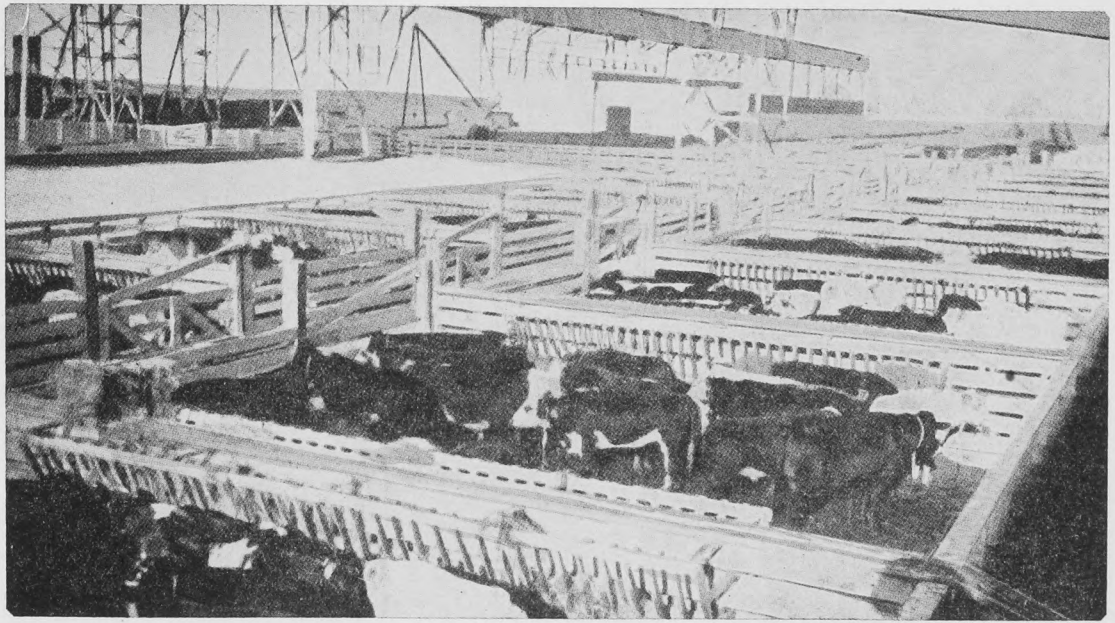
Hospital: A hospital and a doctor are maintained by the Port authorities.

Law and Order: The Royal Canadian Mounted Police force is charged with the responsibility of maintaining law and order.

School: Educational facilities are provided. Approximately thirty children are in attendance.

The Townsite: The Government of Manitoba has jurisdiction over the development of the townsite of Churchill, now drained and surveyed into commercial and residential lots. It is open for settlement and building sites are available on the leasehold system.

Further Information: Further information and details relating to the townsite may be obtained from the Department of Mines and Natural Resources, Winnipeg, Manitoba.



Cattle Pens, Churchill

The Harbour

THE facilities and equipment available for handling cargo at Churchill are the most modern and, therefore, may be operated with the greatest of ease and efficiency. Shipmasters, exporters, consignees and others who have had actual experience with them speak highly of these facilities and do not hesitate to recommend them.

Port properties and facilities are administered by the federal authorities.

Wharf: A spacious wharf with a frontage of 1,855 feet and berthing accommodation for four vessels is situated on the east shore of the harbour about one mile from the entrance. Accommodation is provided for cold storage, cattle, lumber, together with a coal handling plant and a terminal shed.

Cargo Equipment: Equipment is provided for handling cargoes, including locomotives for switching cars, railway tracks on the wharf to all ships' berths, a floating derrick of 20 tons capacity, scows for removing ship's ballast, electric light installation, and two locomotive cranes of 15 and 20 tons capacity.

Freight Shed: A modern freight shed, 477 feet in length and 173 feet in width, is conveniently situated.

Service Tracks: Tracks have been laid along the wharf and in the shed. Train make-up railway yards are conveniently located.

Open Storage: An area on the wharf is capable of storing about 40,000 tons of coal.

Cattle Pens: Standard cattle pens with runway to the shipping berths for the accommodation of 20 car loads of cattle have been erected; these pens are half roofed, thus providing shelter and protection during unfavourable weather.

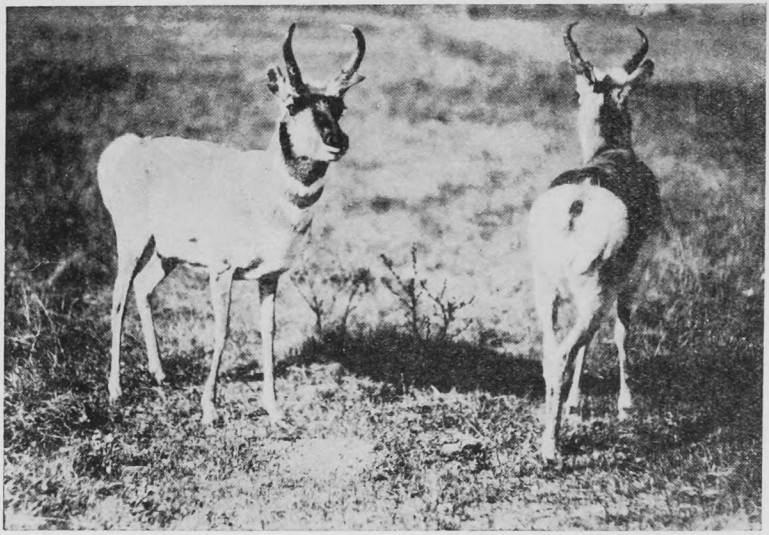
Fresh Water: A reservoir of 20 million gallons capacity has been erected about three miles from the townsite of Churchill for the purpose of ensuring ample water for residents and other purposes of the port.

This reservoir is approximately twenty feet deep, sufficient to keep the water from freezing to the bottom in winter. It intercepts the drainage of about two and a half square miles and this area can be increased to ten square miles at a minimum of cost. Equipment includes a pumping station and tank connected by a 10-inch wrought iron pipe with another tank located within the townsite of Churchill; an 8-inch pipe carries water from the townsite tank to a storage tank at the elevator and dock. This reservoir and pipe line may become a part of a scheme to obtain water from the Churchill river if such should ever be required. The capacity of the pipe lines is about 250,000 gallons daily.

Electricity: By special arrangement electric current for lighting purposes may be supplied to shipping.

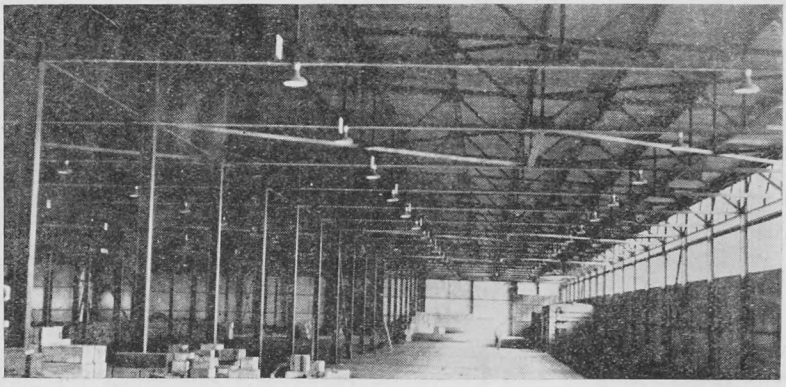
Fire Prevention Service: Two Government tugs at Churchill are equipped with pumps for use in the harbour. On the wharf there is a water main with suitably located hydrants extending along the front from the pumping station at the south end to the north end of the freight shed. By starting two electrically operated centrifugal pumps in the station, the pressure in this main may be raised at a moment's notice for fire fighting purposes.

Pilotage: Harbour tugs and proficient pilots are available. The tugs are maintained by the Federal Government.



Antelope in the Open

Anchorage: There is safe anchorage for three ocean vessels, with 30 feet of water at low tide, at the mooring ground about a mile distant. Bow and stern moorings will be provided for eight vessels in over 20 feet of water at low tide. There is safe anchorage for an unlimited number of vessels in from 8 to 12 fathoms over sand and mud bottom, outside the harbour.

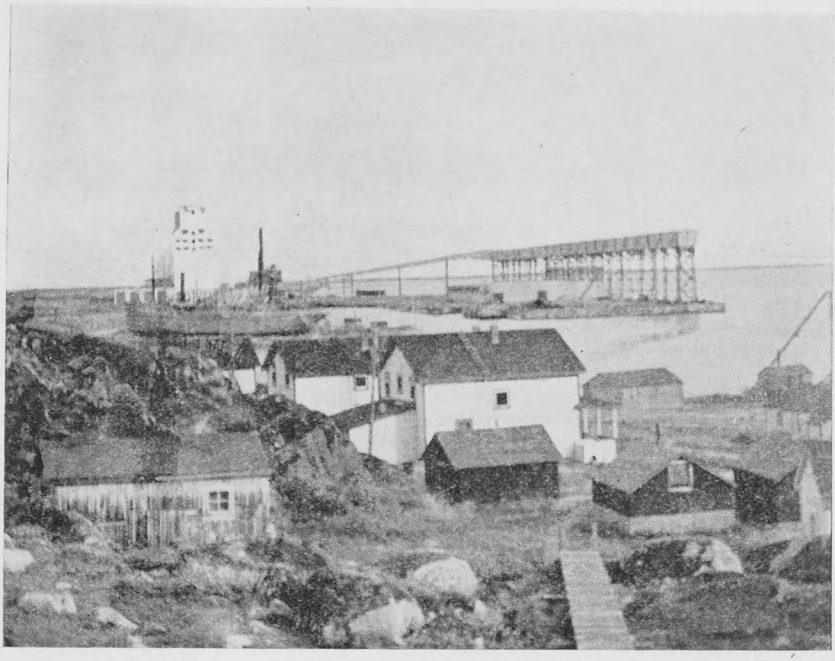


Interior of Fire Proof Freight Shed, Port Churchill

The Grain Elevator

CAPACITY: The completely modern grain elevator at Churchill, erected by the Canadian Government, has a capacity of two and a half million bushels; it is built in such a manner that the capacity may be stepped up to ten million bushels with little expenditure and labour. The workhouse alone of the present unit has a capacity of half a million bushels.

Equipment: The workhouse includes four receiving legs with a capacity of 25,000 bushels per hour each; four shipping legs with a capacity of 20,000 bushels

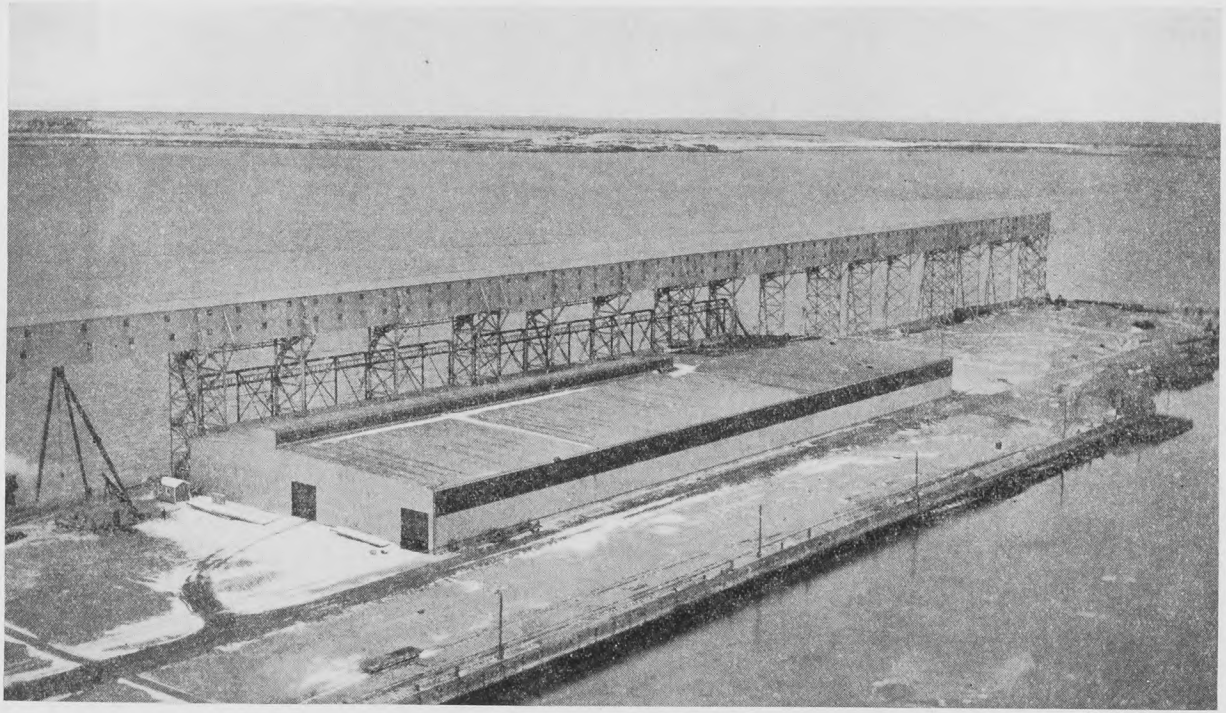


General View, Churchill

per hour each; 11 cleaner legs and one drier leg. Hopper scales, each having a capacity of 2,500 bushels, 19 cleaner garners, passenger elevator and Humphry elevator, are included in the equipment. A complete dust cleaner system operates throughout all parts of the workhouse. Steel sash and glazing in all wall areas between columns provides a maximum of light and protection against possible dust explosions.

The Annex: The storage annex, 290 feet by 100 feet, is built end-on to the workhouse. It contains 44 circular bins 23 feet in diameter, 24 outer space bins, and 76 inner space bins. In the cupola there are four conveyor belts 42 inches in width; in the basement there are an equal number, 36 inches in width.

The Drier: A grain drier having a capacity of 1,000 bushels per hour is housed in a separate building.



Pier and Freight Shed, Port Churchill, Viewed from Top of Elevator

Outline Map of Canada, showing relative position of the Hu

of the Hudson Bay, Churchill and the Hudson Bay Railway

Office Building: The office building is at one end of the workhouse; it contains the elevator offices, millwright shop, dining and rest rooms for the staff, and quarters for the inspection department.

Power: Electric power is generated by a modern power plant housed in a building 120 feet long and 100 feet wide. The equipment includes two 600 B.H.P. boilers, one 300 B.H.P. boiler, two 1,500 K.W. steam turbo-generators, and one 600 K.W. turbo-generator.

Grain Delivery: Grain is delivered from the elevator to the deep water dock by a four belt conveyor system. The gallery along the dock is 1,460 feet in length, providing berthage for three grain boats under the galleries' spouts. Twenty-three boat spouts are spaced at about 65 feet centres. Four streams of grain may be discharged at the rate of 20,000 bushels per hour, per stream. Shipping galleries are of structural steel frame covered with corrugated iron. Cars of grain may be unloaded from the shed into the elevator from four receiving tracks equipped with automatic car dumpers capable of discharging half a million bushels of grain in twenty-four hours.

Caribou Fording Northern Waters

Churchill Port Charges, etc.

CHARGES at the port of Churchill have been fixed by the Federal Government on a tariff basis that shall not exceed the minimum rates in effect at other Canadian ports.

Heavy expenditures have been incurred by the Federal Government in the development of the port and the installation of modern equipment for the quick despatch of cargo and steamers. Upkeep, maintenance, and further development of the port, however, make further expense necessary. In this connection it may be said that the principle, that, as port costs are borne by the taxpayers, their burdens should be lightened by contributions from those who benefit from the use of the ports, is generally applied to all ports. It is necessary, therefore, that the Federal Government secure some revenue to help meet expenditures.

The following is a summary of the Federal Government and general port charges at Churchill:—

Harbourmaster's Fees: Regular Canadian fees.

Dockage: For vessels, hulks, scows or tugs, making use of the dock, but not loading or discharging freight; $100 for each twenty-four hours or portion thereof.

Free Period: A three-day free period is allowed vessels loading and discharging freight, after which free period the dockage charge will be made.

Wharfage: Wharfage charges are made on cargo passing over the docks or wharves, or transferred between the vessels, or loaded from the water over the ship's side while the vessel occupies a berth at the wharf. These charges are exclusive of any such for sorting, piling, weighing, handling or trucking.

The tariff is the minimum at other ports according to commodity. Where goods are not specified—imports $0.25 per ton, exports $0.20 per ton.

Storage: Storage charges are made on freight remaining on the wharf premises after the expiration of the free-time period. All freight using the dock or wharves will be allowed four days' free storage immediately preceding a vessel's loading, or immediately following a vessel's discharge. The free-time period is exclusive of Sundays and legal holidays. After the expiration of the four-day free-time period storage charges will be assessed as follows, per 2,000 pounds or 40 cubic feet:

Seven days or less: three cents per day.
Over seven days or under fourteen: four cents per day.
Over fourteen days: five cents per day.

Gasoline, naphtha, distillate and high explosives, may not be stored.

If **space is available,** freight may be stored outside the sheds at $0.25 per ton, per month or portion thereof, provided the consignee has signed a release of responsibility for loss or damage; otherwise the regular storage rates apply.

Pilotage: Pilotage dues, inward and outward, at the rate of $50 per vessel, are compulsory.

Port Warden: Under the terms of the Canada Shipping Act, a tariff of port warden's fees has been approved; these charges are for surveys of cargoes,

hatches, hulls, spars, rigging of any vessel, damaged goods, every valuation of a vessel, every inspection of a vessel intending to load, and certificates.

On a ship carrying 5,000 tons of grain, the charge will amount to $50.

The fee for survey of hatches is $8.

Handling Lines: On ships handling general cargo, no charge will be made between 8 a.m. and 5 p.m., exclusive of holidays.

Between 5 p.m. and 8 a.m.: $1.20 per man, per hour, for tying up and letting go a vessel's lines: minimum, two hours.

Details of special tariff for handling ship's lines when vessels are loading bulk grain only, may be secured upon application to the port authorities. A vessel has the privilege, if so desired, to take and let go its own lines at the elevator terminals.

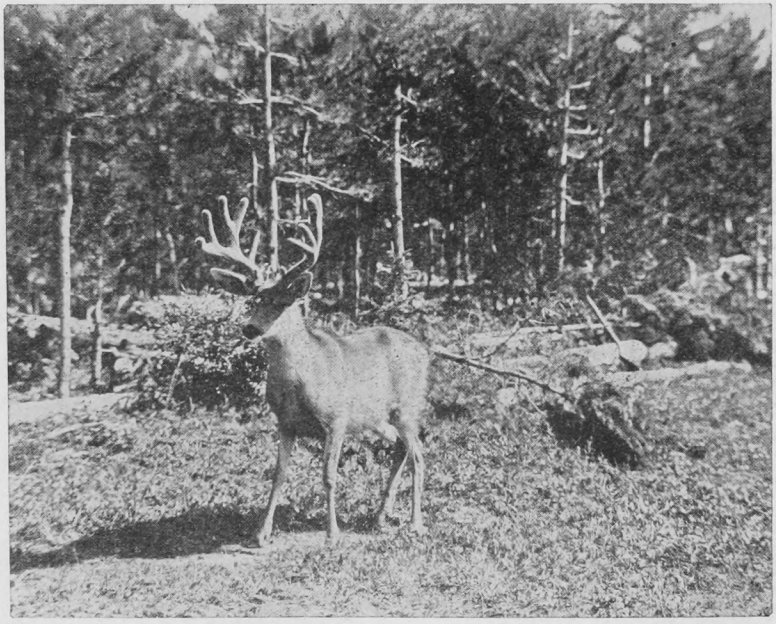
Tug Service: $50 per hour.

Fresh Water $0.45 per 1,000 gallons for fresh water furnished to vessels alongside the wharf; an additional charge of $2.00 for wharf hose, if used.

Electric Current: Electric current for lighting purposes will be furnished according to special arrangement.

Stevedoring: This will be done according to private contract.

Elevator Delivery: A favourable tariff schedule may be obtained upon request.



Jumping Deer in the North Forest

Shipping Services

THE Department of Marine, Ottawa, administers the general shipping interest of Canada, including Churchill and the Hudson Bay route. Administration of the Canada Shipping Act and other acts relating to marine transportation, the construction of lighthouses, ports, harbours, piers, pilotage, the meteorological service, river and harbour police, shipwreck inquiries, inspection of ships, radio telegraph stations, etc., are among the most important functions of the department.

Typical Northern Bull Moose

Marine Insurance

THE insurance rates on hulls and cargoes using Churchill and the short season covered constitute an unnecessary and unjustified handicap against the Hudson Bay route and impose a heavy burden on overseas trade. The question of marine insurance is highly important and is closely allied with the development of the Hudson Bay route.

Trade to and from Churchill is at present catered for by cargo steamers which generally are insured on whole world policies by the year. These policies are subject to what are known as "Institute Warranties." Under these warranties, the terms of which are settled by the Joint Hull Committee, a shipowner covenants that his ship shall not voyage in certain defined trade routes which the underwriters regard as involving extra risk. The route to Churchill is considered as being in the latter category. In the form of the policy, however, there is a clause providing for the suspension of any of these warranties on the payment of an additional premium. If, during the year covered by the insurance, a shipowner desires to send his ship into prohibited water, he pays the additional premium, the amount of which is fixed on the recommendation of the Joint Hull Committee. The basal premium for the year's insurance is arrived at by competition.

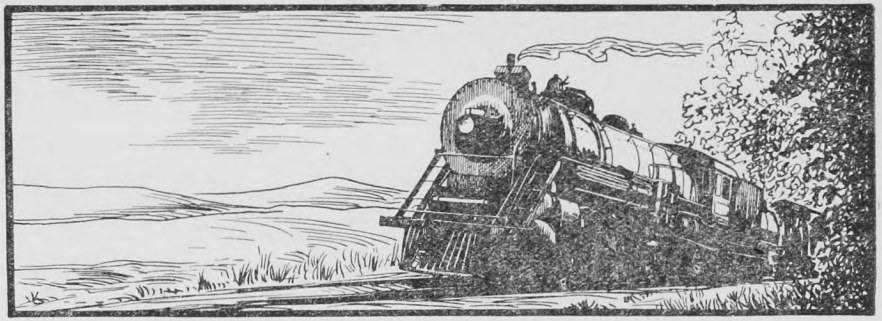
There is a provision in the policy known as the British North American Warranty Clause, which provides that the ship is insured under the condition that she will not ply to British North American ports; if it does, an additional premium, varying with the season, will be charged.

This clause has been vigorously contested for many years but it still stands as applied to hulls and cargoes using Canadian ports with the exceptions of Vancouver and Prince Rupert, hulls into Halifax, and cargoes through Saint John. From St. Lawrence and Maritime ports, however, much lower rates than from Churchill are quoted.

The additional premium for suspension of the North American Warranty, in respect to vessels using the Hudson Bay route, covers their entry to the Hudson Strait on or after August 5 and leaving Churchill on or before October 10. A further premium must be paid on vessels sailing from Churchill October 11 to October 15.

Through the efforts of the Saskatchewan and Dominion Governments, representations have been made annually to the Imperial Shipping Committee with the result that underwriters have granted some measure of relief, particularly to vessels equipped with a gyro compass and direction-finding apparatus.

The shipping experiences of the past five years, aided considerably by radio and direction-finding stations as well as by the patrol ship *N. B. McLean*, will unquestionably enable underwriters to take a more optimistic view and reconsider concessions along the lines desired. Meantime, the Saskatchewan Government continues in its efforts to obtain the measure of fair and just rates which, in view of the success in shipping during the past five years, is warranted.



Hudson Bay Railway

RUNNING between Churchill and The Pas, Manitoba, a distance of 510 miles, the Hudson Bay railway, operated by the Canadian National Railways, links Canada with the Hudson Bay route.

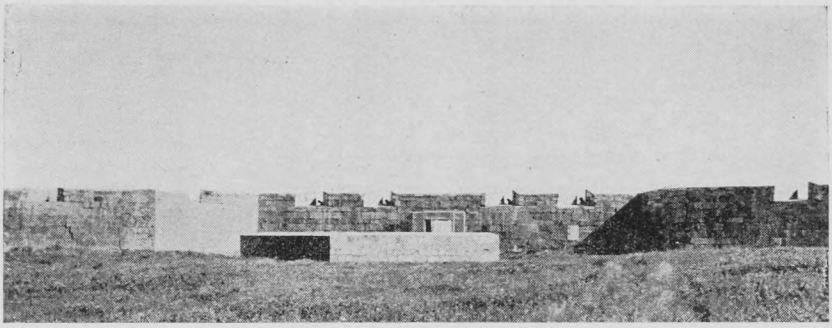
It is probable that the Hudson Bay railway will develop its own traffic and, apart from the transport of grain, the road will doubtless justify the expenditure upon it from traffic originating from the natural resources of the territory served, which in itself will prove a profitable factor in the development of Canada's hinterland. Transportation of supplies for mining camps and northern trading posts already constitutes a substantial volume of business.

The presence of minerals in stupendous quantities tributary to the main line of the railroad has become a certainty already, and resultant development undertakings have made necessary the building of branch lines to Flin Flon and Sherritt-Gordon mines.

The possibility of an outlet to the ocean by way of Hudson Bay was under consideration for many years. Old maps in the Department of Railways and Canals at Ottawa show the existence of paper projections to Hudson Bay even before the Canadian Pacific railway had been constructed. From 1886 to 1908 the Canadian statutes contained a standing offer of subsidy in the form of land grants to anyone who would undertake the construction of the line. In the latter year, federal legislation authorized the sale of public lands in the prairie section of the West to enable the country either to construct, or to pledge the credit of the country to construct, a publicly-owned railway to Hudson Bay. This legislation was in force until 1918; its result was a fund of approximately twenty-two million dollars. This revenue was never set apart specifically for the purposes of the railway, but the federal treasury has had the benefit of it. Western Canada thus feels that it has already provided a fair proportion of the outlay involved in the undertaking.

Plans of 1910

Plans for a Hudson Bay railroad assumed definite shape in 1910 when a branch line of the Canadian Northern railway, now part of the Canadian National Railways, was completed from Hudson Bay Junction to The Pas, and the building of a Federal Government line from The Pas to Hudson Bay was authorized by parliament. Work on the Hudson Bay railroad was commenced the following year with Churchill as the objective. The proposed route lay



Entrance, Fort Prince of Wales

entirely to the north of Nelson river and measured 474 miles. A townsite had been surveyed at Churchill in 1908 and it was confidently expected that this fine natural port would be developed in the course of a few years.

Port Nelson

Before much progress had been made on the building of the railway, or any at Churchill other than surveys, the federal government of the day decided to make Port Nelson the terminus instead of Churchill, and the location of the road was altered accordingly. The new survey crossed the Nelson river twice, at Manitou Rapids and at Kettle Rapids. The route was shortened by only fifty miles, the total distance from The Pas to Fort Nelson being 424 miles, but the developing of harbour facilities at Nelson involved greater effort and expenditure than at Churchill.

The right-of-way was cleared and graded to Port Nelson. Before the end of 1918, steel was laid as far as Kettle Rapids, 332 miles from The Pas. A very substantial steel bridge of a single 1,000-foot span was erected at this crossing of the Nelson River. Expenditures on the building of the railway amounted to fourteen million dollars and over six million was spent on port development at Nelson.

Following the close of the war the work of development was suspended, and for some years only part of the completed railway was kept in repair; a very limited service was maintained between The Pas and Pikwitonei at Mile 214.

The work of completing the Hudson Bay railway was resumed by the Federal Government in 1926. Before additional construction could be undertaken, however, it was necessary to rehabilitate the entire mileage as formerly constructed, because the eight-year interval between closing down and resuming work had resulted in material deterioration and destruction.

Choice of Churchill

After considerable discussion, a special committee of the Senate recommended that, before making further important expenditures at Nelson, a new and thorough examination should be made into the relative merits of the two ports. No authority on harbour development had been consulted previously in

Kettle Rapids on Nelson River

relation to Hudson Bay ports. Sir Frederick Palmer, of the firm of Rendel, Palmer, and Tritton, London, England, was engaged finally by the Dominion Government to investigate the respective merits of Nelson and Churchill. Concurrently, steps were taken to ascertain whether it was physically possible to construct a line to Churchill, doubt having been thrown on that possibility by engineers who had favoured the selection of Nelson. In August, 1927, Sir Frederick, accompanied by the Minister of Railways and Canals, and the chief officials of the department, visited both places and, upon their return, Sir Frederick reported that Churchill was undoubtedly the port to be selected as affording a real harbour in which shipping facilities could be provided in calm water, protected from all storms by the surrounding rocky cliffs.

Competent engineers, after careful investigation, also reported that it was no more difficult to build a railway to Churchill than to Nelson.

In consequence of recommendations made by such an acknowledged authority on harbour problems as Sir Frederick, and the engineers' report, it was decided to extend the railway to Churchill and establish the Hudson Bay railway terminus to that point, thus reverting to the decision originally made.

COST OF HUDSON BAY PROJECT

The total expenditure upon the Hudson Bay project, including the appropriation for 1935-36, as well as that incurred at Port Nelson prior to the establishment of the terminus at Churchill, has been as follows:

1.	Railway	$32,638,823.00
2.	Port Nelson terminals	6,240,201.00
3.	Churchill	13,263,759.00
	Total	$52,142,283.00

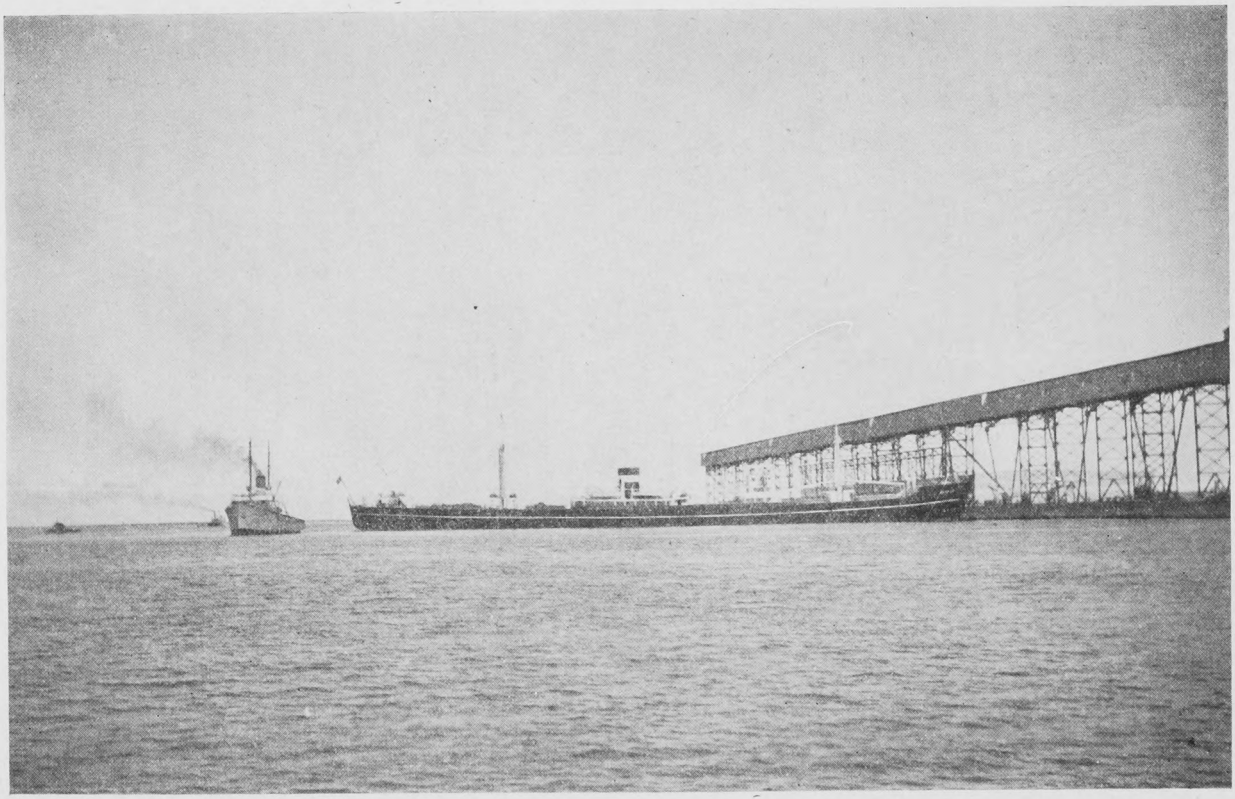
It should be reiterated here that certain lands were set apart in Saskatchewan, Manitoba and Alberta, to be sold and the proceeds earmarked for the purpose of building the Hudson Bay railway. Certain of these lands were sold and the proceeds were paid into the federal treasury. True, the lands were set aside before the natural resources were turned over to the provinces, but the fact remains that Western Canada thus made a large and valuable contribution for the express purpose of constructing the Hudson Bay railway.

During the ten years the provisions of the law as to the pre-emption and purchase were in force, the Dominion Department of the Interior disposed of pre-emptions approximating 12,763,040 acres, including entries since cancelled, and approximately 1,322,840 acres as purchased homesteads, including entries since cancelled. The lands were sold at $3.00 per acre.

PROCEEDS OF LANDS SOLD

Class	Sold for	Amount paid	Amount paid
Pre-emptions	$38,289,120	$18,697,346	$19,591,774
Purchased homesteads	3,968,520	3,294,840	673,680
	$42,257,640	$21,992,186	$20,265,454

Since these figures were compiled, in all probability further payments on land and other adjustments have been made.



M.V. *Jean L.D.* Turning at Wharf, Port Churchill

Shipping Report

SINCE early in the seventeenth century, vessels of the Hudson's Bay Company have plied back and forth across the ocean and in and out of the Hudson Bay, transporting merchandise from Europe to trading posts along its shores, returning to Europe with cargoes of furs. However, records of the tonnage handled prior to the year 1931, when the dock at Churchill was equipped with modern facilities, are not available.

In 1931, the *S.S. Farnworth* and the *S.S. Warkworth*, both owned by R. S. Dalgliesh, Limited, Newcastle-on-Tyne, carried cargoes of grain from Churchill to Europe. These trial shipments were exceptionally successful; the former ship arriving at London and the latter at Antwerp in sixteen and fifteen days, respectively, after sailing from Churchill.

The summary of sailings and the tonnage of all incoming and outgoing cargoes since 1931 follows:

Year	No. of ships	Exports	Imports
1931.....	2	544,769 bus. of grain.	.....
1932.....	10	2,736,029 bus. of grain. 987 tons of flour, etc.	430 tons, general cargo.
1933.....	10	2,707,889 bus. of grain. 200 head of cattle. 150,134 F.B.M. lumber. 20 tons of honey, etc.	2,223 tons, general cargo.
1934.....	15	4,053,931 bus. of grain. 3,795 tons of flour, etc. 580 head of cattle. 7 tons of honey. 2,399,554 F.B.M. lumber.	1,409 tons, general cargo.
1935.....	8	2,407,000 bus. of grain.	2,261 tons, gen. cargo
1936.....	14	4,293,501 bus. of grain.	1,889 tons, gen. cargo
1937.....	2	603,982 bus. of grain.	1,675 tons, gen. cargo
1938.....	3	916,913 bus. of grain.	.....

It is clearly indicated by the foregoing that up to the present grain and its products constitute the principal commodity exported. Imports have consisted of a wide variety of commodities, including window glass, binder twine, liquors, confectionery, dry goods, barbed wire, iron bars, wire netting, iron and steel castings, steel balls, bolts and nuts, hardware, cream separators, toilet fixtures, alumina sulphate, sodium cyanide, lithophane, oil, fire bricks, coal and coke, stationery and stationery supplies and table ware.

The decrease in export business in 1937 was occasioned by the small crop in Saskatchewan that year.

It is, however, very encouraging to note that the wheat exported through Churchill in 1938 was produced on Saskatchewan farms during that year. Hitherto it has not been considered practical to export grain through Churchill the same year that it was grown. This is further proof that the Hudson Bay Route is both practical and economical, and is a natural outlet to British and European markets for Western Canadian products.

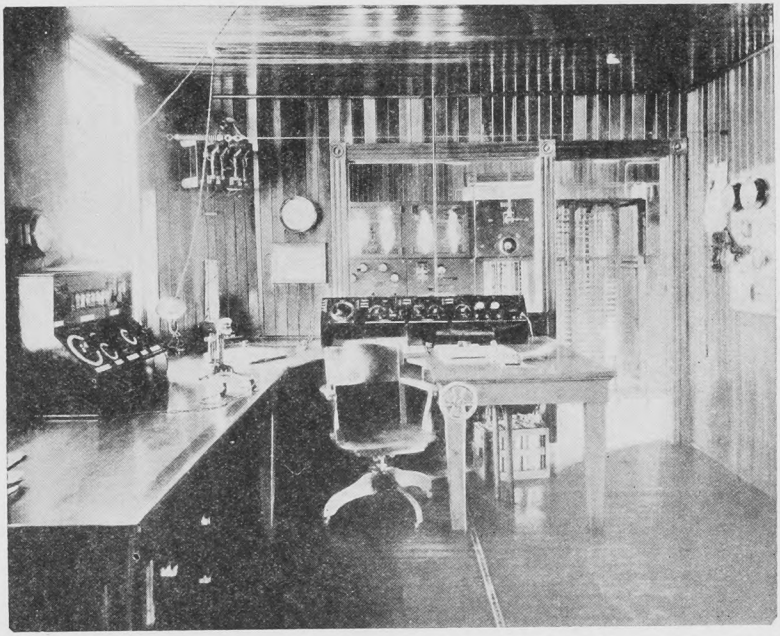
Of the sixty-four ocean-going vessels which have entered and left the port of Churchill during the past eight years, forty-three were British, fifteen French, three Dutch and three Italian.

Churchill activities are not confined exclusively to overseas' trade. There is, in addition, a large coastal trade, chiefly with fur traders, missions, the Hudson's Bay Company and the Royal Canadian Mounted Police.

Prior to the completion of the railway into Churchill, supplies for trading posts were shipped in by boat from Montreal. Since that time, however, a large portion of these supplies has been moved in by rail and distributed from Churchill by boat.

Aids to Navigation

APART from those arising from fog and ice there are no unusual or serious obstacles to navigation via the Hudson Bay route. Nevertheless, the Dominion Government realizes the obvious importance of providing satisfactory aids to navigation so that, so far as may be humanly possible, risks which may cause anxiety to shipowners, underwriters, and others interested will be reduced to a minimum.



Standard D.F. Installation of Wireless Station, Cape Hopes Advance, Fort Resolution, Nottingham Island, Chesterfield Inlet

Radiotelegraph Stations: There are five government-owned radiotelegraph stations equipped with direction-finding apparatus located in the bay and strait. Particulars of these stations follow:

Station	Call Letters	Calling Wave Kc/s.	Calling Wave Metres	Position Latitude North	Position Longitude West
Resolution Island	VAW	500	600	61°18′30″	64°53′24″
Cape Hopes Advance	VAY	500	600	61°05′12″	69°33′24″
Nottingham Island	VCB	500	600	63°06′48″	77°56′18″
Chesterfield Inlet	VBZ	500	600	63°20′05″	90°42′33″
Port Churchill	VAP	500	600	58°46′32″	94°10′31″

Direction Finding Stations stand by on 500 kc/s. (600 metres) and will change to 375 kc/s. (800 metres) to give bearings after communication has been established, except Resolution Island, which gives bearings on 500 kc/s. (600 metres).

Additional detail of radio aid to navigation service is given in the list of Radio Stations of Canada, issued annually by the Director, Radio Branch, Department of Marine, Ottawa. Supplements to the annual list are published several times throughout the year; these should be obtained and consulted for the latest changes.

The N. B. McLean Patrol Ship

THE Canadian Government owns and operates the large, powerful patrol and ice-breaking steamer, *N. B. McLean*; it is the most modern and efficient ice-breaker in the world. This ship is stationed in the strait at the opening of navigation each year, and remains there until the close of the shipping season. Information relating to and the position of *N. B. McLean* may be obtained at any time from any radio station in the strait.

Size: The leading dimensions of the *N. B. McLean* are as follows:

Length (B.P.)	260 feet
Breadth (moulded)	60 feet
Depth (moulded)	31 feet
Gross tonnage	3,253 tons
Indicated horse-power	6,500
Fuel oil capacity	1,596 tons

EQUIPMENT

Radio: This patrol ship is completely equipped with radiotelegraph and radiotelephone apparatus and maintains constant watch on a wave length of 600 metres (500 k/cs.); call sign CGSN.

Towing: This vessel has twin screws and is equipped with a patent towing winch and carries both steel wire and manilla towing hawsers.

Diver: She carries, as part of her regular equipment, a diver and complete diving apparatus.

Light: A powerful searchlight.

Derricks: Two 7-ton derricks.

Launches: Two motor launches.

Salvage Gear: 1 Drake centrifugal pump, 10 inches. 1 Smart Turner centrifugal pump, 8 inches. 1 duplex pump, 6 inches.

All of these are equipped with lifting rings, flexible suction and discharge pipes, foot valves, syphons and all necessary auxiliaries.

One hundred and fifty feet of bronze flexible steam hose with connections.

A complete set of patching gear, shores, turnbuckles and all necessary tools.

TUGS AND SALVAGE PLANT

In addition to the *N. B. McLean* with her salvage gear, etc., there are two other tugs, reinforced for ice, stationed at Churchill, one being the *Ocean Eagle*, which is also equipped with salvage plant.

HYDROGRAPHIC SERVICE

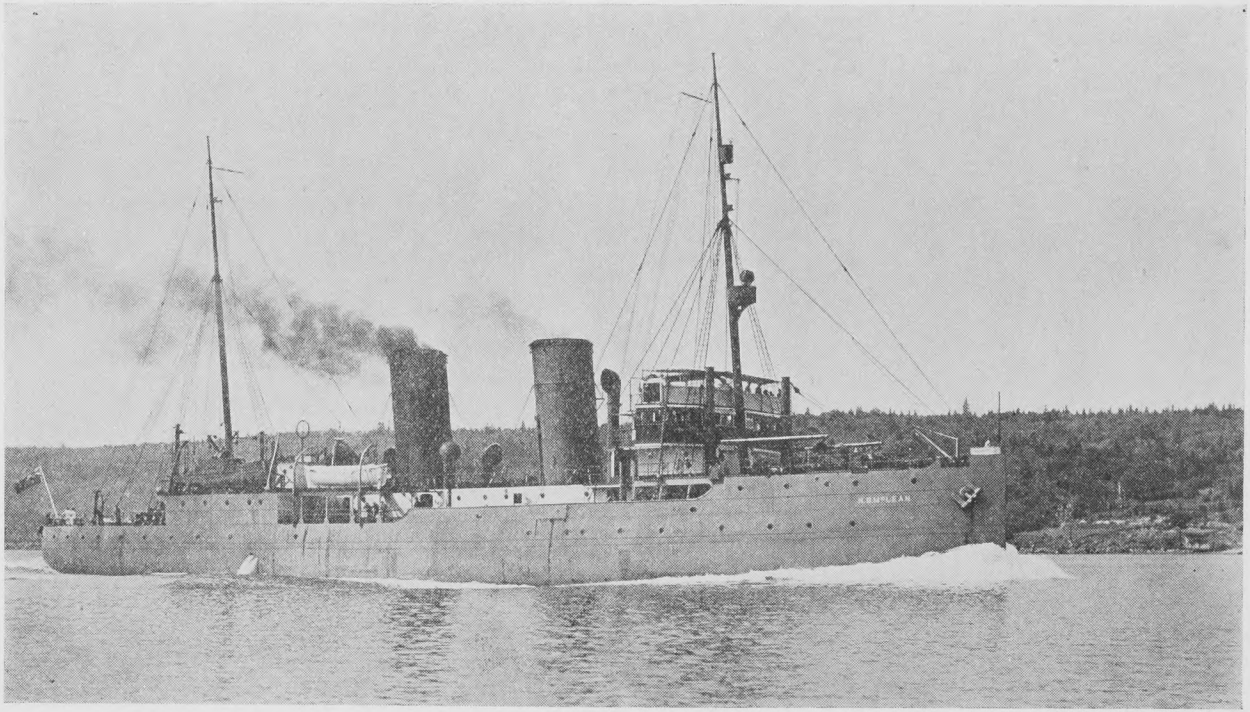
The Canadian Hydrographic Service, Department of Marine, Ottawa, continues its charting operations in the vicinity of Hudson Strait. Navigation charts, sailing directions, and tide tables may be secured from them.

WEATHER AND ICE REPORTS

Weather forecasts, ice reports, and reports on aids to navigation pertaining to Hudson Bay, Hudson Strait and that portion of the northern Atlantic adjacent thereto, are broadcast daily and handled free of charge by the Government radiotelegraph stations in Hudson Strait and at Churchill.

NAVIGATION LIGHTS

The Lighthouse Board of Canada recommends the establishment of lights and these are being provided from time to time as considered necessary and desirable. The following schedule gives particulars of the aids to navigation now in service:



The *N. B. McLean*

Name	Position Latitude North Longitude West	Colour of lights. Fog signals	Character and period of light	Height in feet above high water
Resolution Island	Near edge of cliff, southwest point of Resolution island 61° 18′ 28″ 64° 53′ 16″	White	Fl. 10 secs.	129
Cape Hopes Advance	61° 05′ 14″ 69° 33′ 23″	White	F.	270
Wales Island	61° 51′ 37″ 71° 58′ 19″	White	Fl.	280
Ashe Inlet	Eastern end of Rabbit island, entrance to inlet 62° 31′ 40″ 70° 33′ 27″	White	Fl.	191
Charles Island, east end	62° 36′ 40″ 73° 56′ 09″	White	Fl.	200
Charles Island, west end	62° 42′ 30″ 74° 40′ 00″	White	Fl.	45
Nottingham Island	On south extremity of island 63° 05′ 48″ 77° 56′ 55″	White	Fl.	50
Digges Islands	On northwesterly islet of the Digges group 62° 37′ 00″ 78° 00′ 00″	White	Fl.	95
Mansel Island	North extremity of island 62° 27′ 00″ 79° 38′ 00″	White	Fl.	41
Coats Island	On Cary's Swan Nest, southeast point of island 62° 10′ 00″ 83° 08′ 00″	White	Fl.	45
Hubbart Point	On point, northeast of old beacon 59° 21′ 00″ 94° 40′ 18″	White	Fl.	43
Churchill harbour	On west side of harbour, about 2,500 feet southwest of Ship point 58° 47′ 06″ 94° 13′ 54″	White	F.	56
	5,400 feet 236° from front	White	F.	115

Miles seen in clear weather	Character of apparatus	Description buildings, vessels, and buoys. Height in feet from base to vane	Remarks
17	Electric	White square wooden lantern on wooden skeleton base.	Shows one flash every 10 seconds. Light about 350 feet southwest of radio station. Light obscured northeastward of 275° by high land.
22	Electric	Pole	
22	D, Acetylene	Pole	Light is unwatched.
8	D. Acetylene	Pole, red tank at base.	Visible from all points of approach. Light is unwatched.
20	D, Acetylene	Pole	Light is unwatched.
11	D, Acetylene	Pole	Light is unwatched.
12	D, 7 Acetylene	Red lantern on pole, two red tanks at base.	Visible from all points of approach. Light is unwatched.
8	D, Acetylene	Pole, red tank at base.	Visible from all points of approach. Light is unwatched.
8	D, Acetylene	Pole, red tank at base.	Visible from all points of approach. Light is unwatched.
11	D, 7 Acetylene	Lantern on pole adjacent to white rectangular slat-work daymark.	Light is unwatched. Shoal water surrounds this point and should not be approached nearer than 5 miles.
11	D, 7 Acetylene	.....	Light is unwatched.
13	.....	.....	Maintained by Department of Railways and Canals.
16	.....	.....	

Distance Tables

From—	To Liverpool
Churchill	2,936
Montreal—	
Via Belle Isle Strait	2,760
Via Cabot Strait	3,007
Halifax	2,490
Saint John, N.B.	2,756
Vancouver	8,547
New York	3,040

DISTANCES FROM PRINCIPAL WESTERN CANADIAN POINTS TO LIVERPOOL

From—	Via Montreal (Great Lakes route)	Via Churchill
Regina	4,750	3,779
Saskatoon	4,878	3,750
Prince Albert	4,911	3,696
Moose Jaw	4,792	3,821
Winnipeg	4,393	3,913
Portage la Prairie	4,449	3,859
Brandon	4,527	3,873
Calgary	5,226	4,150
Edmonton	5,224	4,073

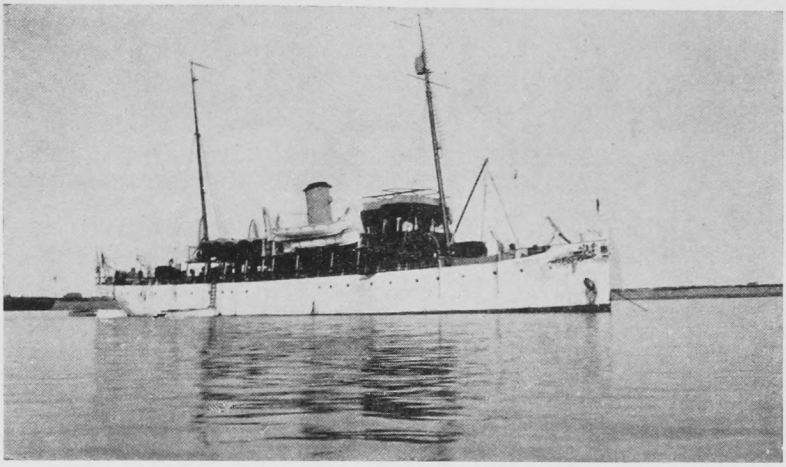
The advantage gained by the shorter rail haul will be seen from the following figures showing the distances from principal western Canadian points to Churchill as compared with Montreal:

From—	Churchill all rail	Montreal all rail	Montreal via Great Lakes
Regina	843 miles	1,713 miles	1,990 miles
Saskatoon	814 "	1,828 "	2,105 "
Prince Albert	760 "	1,871 "	2,148 "
Moose Jaw	885 "	1,756 "	2,032 "
Winnipeg	977 "	1,357 "	1,633 "
Portage la Prairie	923 "	1,412 "	1,689 "
Brandon	937 "	1,492 "	1,767 "
Calgary	1,214 "	2,220 "	2,497 "
Edmonton	1,137 "	2,147 "	2,424 "

ALL-RED ROUTE

Churchill, and the connection of the Hudson Bay railway with the Canadian National and Canadian Pacific railway systems, provides the shortest All-Red Highway round the world, as the following figures disclose:

England to Asia—	
Via Suez Canal	16,000 miles
Via New York and San Francisco	11,000 "
Via Churchill	8,000 "



C.G.S. Acadia, **Hydrographic Survey Ship in Hudson Strait**

Schedules of Comparative Freight Rates

THE following tables indicate the very substantial reduced freight rates obtainable on farm products and general merchandise routed via Churchill, with consequent large savings to the patrons of the Hudson Bay route. Some of the principal distributing centres are cited by way of illustration.

GENERAL MERCHANDISE

Class rates in cents per 100 lbs.

Regina	1	2	3	4	5	6	7	10
From Churchill	236	197	158	119	107	92	63	54
From Montreal—								
All rail	358½	298	241½	185½	155	137	103½	94½
Rail-lake-and-rail	333½	278	227½	175½	149	132	98½	89½
Lake and rail	325½	271	221½	170½	146	129½	96½	87½
Saskatoon								
From Churchill	230	192	153	116	104	90	62	53
From Montreal—								
All rail	385½	321	259½	198½	168	149	110½	100½
Rail-lake-and-rail	360½	301	245½	188½	162	144	105½	95½
Lake and rail	352½	294	239½	183½	159	141½	103½	93½
North Battleford								
From Churchill	246	206	165	123	111	96	66	56
From Montreal—								
All rail	406½	337	273½	207½	177	157	116½	106½
Rail-lake-and-rail	381½	317	259½	197½	171	152	111½	101½
Lake and rail	373½	310	253½	192½	168	149½	109½	99½

	Class rates in cents per 100 lbs.							
Prince Albert	1	2	3	4	5	6	7	10
From Churchill	219	183	147	110	98	84	59	50
From Montreal—								
All rail	396½	330	265½	203½	173	152	113½	103½
Rail-lake-and-rail	371½	310	251½	193½	167	147	108½	98½
Lake and rail	363½	303	245½	188½	164	144½	106½	96½
Yorkton								
From Churchill	207	173	138	104	93	80	56	47
From Montreal—								
All rail	340½	283	228½	176½	147	130	98½	89½
Rail-lake-and-rail	315½	263	214½	166½	141	125	93½	84½
Lake and rail	307½	256	208½	161½	138	122½	91½	82½
Moose Jaw								
From Churchill	246	206	165	123	111	96	66	56
From Montreal—								
All rail	369½	307	247½	191½	161	143	106½	97½
Rail-lake-and-rail	344½	287	233½	181½	155	138	101½	92½
Lake and rail	336½	280	227½	176½	152	135½	99½	90½
Swift Current								
From Churchill (via Moose Jaw)	311	262	209	156	141	122	86	73
From Montreal—								
All rail	390½	324	261½	201½	171	151	112½	101½
Rail-lake-and-rail	365½	304	247½	191½	165	146	107½	96½
Lake and rail	357½	297	241½	186½	162	143½	105½	94½
Weyburn								
From Churchill	251	209	167	126	114	98	68	57
From Montreal—								
All rail	352½	294	235½	182½	152	134	100½	92½
Rail-lake-and-rail	327½	274	221½	172½	146	129	95½	87½
Lake and rail	319½	267	215½	167½	143	126½	93½	85½
Lloydminster								
From Churchill	261	218	174	131	117	102	72	60
From Montreal—								
All rail	421½	349	282½	216½	183	164	122½	109½
Rail-lake-and-rail	396½	329	268½	206½	177	159	117½	104½
Lake and rail	388½	322	262½	201½	174	156½	115½	102½
Winnipeg								
From Churchill	261	218	174	131	117	102	72	60
From Montreal—								
All rail	267½	222	178½	138½	114	101	80½	73½
Rail-lake-and-rail	242½	202	164½	128½	108	96	75½	68½
Lake and rail	234½	195	158½	123½	105	93½	73½	66½
Portage la Prairie								
From Churchill	251	209	167	126	114	98	68	57
From Montreal—								
All rail	283½	235	190½	147½	122	107	83½	76½
Rail-lake-and-rail	258½	215	176½	137½	116	102	78½	71½
Lake and rail	250½	208	170½	132½	113	99½	76½	69½

	Class rates in cents per 100 lbs.							
Brandon	1	3	3	4	5	6	7	10
From Churchill	257	215	171	128	116	99	69	59
From Montreal—								
All rail	304½	253	204½	158½	132	116	89½	82½
Rail-lake-and-rail	279½	233	190½	148½	126	111	84½	77½
Lake and rail	271½	226	184½	143½	123	108½	82½	75½
Dauphin								
From Churchill	225	188	149	113	101	87	60	51
From Montreal—								
All rail	313½	261	210½	164½	137	121	91½	83½
Rail-lake-and-rail	288½	241	196½	154½	131	116	86½	78½
Lake and rail	280½	234	190½	149½	128	113½	84½	76½
The Pas								
From Churchill	155	129	104	78	71	59	42	35
From Montreal—								
All rail	385½	321	259½	198½	168	149	110½	100½
Rail-lake-and-rail	360½	301	245½	188½	162	144	105½	95½
Lake and rail	352½	294	239½	183½	159	141½	103½	93½
Flin Flon								
From Churchill	177	149	119	90	81	68	47	39
From Montreal—								
All rail	406½	337	273½	207½	177	157	116½	106½
Rail-lake-and-rail	381½	317	259½	197½	171	152	111½	101½
Lake and rail	373½	310	253½	192½	168	149½	109½	99½

LIVE STOCK

From—	To Montreal	To Churchill	Savings via Churchill
	Rates per car of 20,000 lbs.		
Union Stock Yards—St. Boniface	$170	$116	$ 54
Brandon	176	112	64
Swan River	202	94	108
Yorkton	202	96	106
Prince Albert	227	100	127
North Battleford	227	108	119
Saskatoon	225	102	123
Regina	214	104	110
Moose Jaw	221	108	113
Edmonton	229	126	103
Calgary	229	132	97

Note: Average reduction is $102.18 per car or 51.09c per 100 lbs.

Tariff References

Montreal rates: C.F.A. Tariff No. 116.
Churchill rates: C.N.R. Tariff No. W.400-H, and No. W.244-B.

BUTTER AND DRESSED POULTRY

From—	To Montreal Cents per 100 lbs.	To Montreal Dollars per car	To Churchill Cents per 100 lbs.	To Churchill Dollars per car	Savings in Rates Cents per 100 lbs.	Savings in Rates Dollars per car
Winnipeg	161	$ 805	165	$ 825	....	$ ....
Brandon	184	920	161	805	23	115
Swan River	197	985	131	655	66	330
Yorkton	194	970	134	670	60	300
Prince Albert	228	1,140	138	690	90	450
North Battleford	232	1,160	153	765	79	395
Saskatoon	220	1,100	147	735	73	365
Regina	205	1,025	147	735	58	290
Moose Jaw	210	1,050	153	765	57	285
Edmonton	246	1,230	182	910	64	320
Calgary	246	1,230	188	940	58	290

Note: Carload minimum weight to Montreal is 50,000 lbs. on mixed cars of butter and dressed poultry, and same is used to Churchill in this rate comparison. Actual carload minimum weight to Churchill is 20,000 lbs. On straight carloads of dressed poultry to Montreal the minimum weight is 30,000 lbs.

Tariff References

Montreal rates: C.F.A. Tariff No. 104-G.
Churchill rates: C.N.R. Tariff No. W.400-H, and No. 134-C.

EGGS

From—	To Montreal Cents per 100 lbs.	To Montreal Dollars per car	To Churchill Cents per 100 lbs.	To Churchill Dollars per car	Savings in Rates Cents per 100 lbs.	Savings in Rates Dollars per car
Winnipeg	124½	$342.37	123	$338.25	1½	$ 4.12
Brandon	142½	391.87	120	330.00	22½	61.87
Yorkton	150	412.50	101	277.75	49	134.75
Prince Albert	175½	482.62	104	286.00	71½	196.62
North Battleford	176½	485.37	116	319.00	60½	166.37
Saskatoon	168½	463.37	110	302.50	58½	160.87
Regina	157½	433.12	110	302.50	47½	130.62
Moose Jaw	163	448.25	116	319.00	47	129.25
Edmonton	187½	515.62	135	371.75	52½	144.37
Calgary	187½	515.62	141	387.75	46½	127.87

Note: Minimum C.L. weight to Montreal is 27,500 lbs., and same is used to Churchill in this rate comparison. Actual minimum C.L. weight to Churchill is 24,000 lbs.

Tariff References

Montreal rates: C.F.A. Tariff No. 104-G.
Churchill rates: C.N.R. Tariff No. W. 134-C.

Commodity rates also are effective on such articles as agricultural implements, asphalt, asphaltum, beans, onions, oyster shells, silica, grit, sweet potatoes, brick, clay, coal, coke, calcium chloride, soda ash, caustic soda, monohydrate of soda, sesqui-carbonate of soda, cereals and cereal products, fertilizer material, grain screenings, molasses refuse, pig iron, pipe, cast and wrought iron, roadway pumps, salt, steel billets and blooms, stucco, and wall board.

FREIGHT RATES ON GRAIN FOR EXPORT

From	To Churchill	To Ft. William and Port Arthur	To Vancouver and New Westminster
Acadia Valley, Alta.	24	24	24
Artland, Sask.	23	24	23
Balcarres, Sask.	20	20	....
Beechy, Sask.	23	23	26
Bladworth, Sask.	22	22	25
Frenchman's Butte, Sask.	23	25	25
Hubbard, Sask.	20	20	27
Lloydminster, Alta.	23	24	23
New Brigden, Alta.	23	24	23
Oyen, Alta.	24	24	24
Renwer, Man.	19	19	....
Runnymede, Sask.	19	19	29
Scott, Sask.	22	23	23
Wroxton, Sask.	19	19	29

The Canadian National railway stations named in the preceding schedule constitute an approximate boundary of an area within which are 423 grain shipping points. Compared with rates to the head of the Great Lakes and the Pacific coast, the rates to Churchill from points within this area are favourable by from 1c to 4c per 100 lbs. The rates from 91 of these points are equal to the rates to the head of the Great Lakes, and from 27 of these points equal to those of the Pacific coast.

The advantage in handling wheat from Western Canadian producers to British ports via the Hudson Bay Route is definitely established in the report recently issued by the Canadian Board of Grain Commissioners. The information contained in this report discloses that the saving in transportation costs for grain moved over the Hudson Bay Route during the crop year 1938-39 is 6c per bushel. The following is a statement of comparisons:

	Vancouver	St. Lawrence	Churchill
	(cents per bushel)		
Handling at country elevator, inspection, etc.	4.	4.	4.
Rail freight to Vancouver and Churchill	13.8	.....	12.5
Rail freight to Fort William and Port Arthur..	.....	13.8	.....
Handling at terminal elevator, loading, etc.	1.5	1.5	1.5
Lake freight rate, etc.	.....	6.3	.....
Ocean freight and insurance, etc.	15.95	9.65	11.25
Total	35.25c	35.25c	29.25c

The foregoing transportation costs warrant the careful study of all who are engaged in the producing and exporting of wheat. Still greater savings will be effected when marine insurance is placed on a parity with that of other ports.

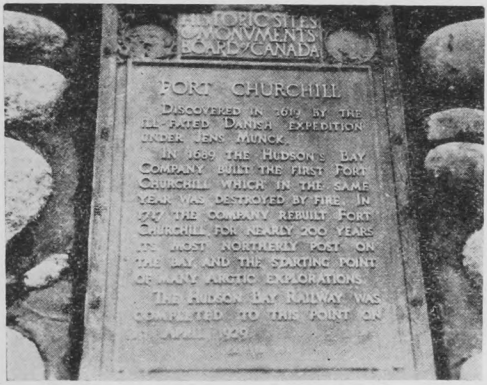
The On to the Bay Association

The On to the Bay Association, organized in 1923 and still functioning, has done much to stimulate interest in the Hudson Bay route. At no time has its energy ceased or even flagged; it has plodded forward ceaselessly and consistently, in season and out, under great difficulties, with the one objective in view. Its influence and labour have assisted materially toward the present state of development.

Rock Carving at Churchill
These letters, "Sl Hearne, July ye 1, 1767", are plainly visible today.

CONCLUSION

The facts recorded in the preceding pages are quite sufficient justification for saying in conclusion that the railway, the port of Churchill and the well marked waterway through the Strait and the Bay constitute a transportation route from the ocean to Canada's interior well worthy of the attention and patronage of shippers and others interested in transportation between Canada, more especially central Western Canada, and the countries across the Atlantic.



Tablet Erected in 1931

This tablet is attached to a cairn built of beach stones in 1931, a monument to Munck and those who made history at Churchill; it stands across the river from the port.